

REMARKS

Summary

Amended independent Claim 1 recites features not understood to be disclosed or suggested by the citations to Lecturmy. et al., Christiani, et al., Prew, et al., Aoki, et al., and Arakane, et al. Therefore, this claim and its dependent claims are now in allowable form.

Status of the Claims

Claims 1-3 are pending. Claims 1-3 have been amended for reasons unrelated to patentability to improve their form. In addition, Claim 1 has been amended to overcome a formal rejection and a substantive rejection. Claim 1 is independent.

Requested Action

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding objection and rejection in view of the foregoing amendments and the following remarks.

Request for Consideration of January 12, 2004 Information Disclosure Statement

Applicants respectfully request that the Examiner consider the documents cited in the January 12, 2004 Information Disclosure Statement and initial and return the accompanying Information Disclosure Citation Form indicating his consideration of the references cited therein.

Formal Objection

Claims 1-3 are rejected under 35 U.S.C. § 112, second paragraph, because in Claim 1, the Examiner is not clear whether the particles recited on line 4 are the same particles as those recited on line 3. Similarly, the Examiner is not clear in Claim 1 as to whether the particles recited on line 8 are the same as the particles recited on line 4. Finally, the Examiner does not understand the step from which the plastic material in line 11 originated.

In response, while not conceding the propriety of the rejection, Claim 1 has been amended to address the points raised by the Examiner. Applicants submit that as amended, Claim 1 now even more clearly satisfies 35 U.S.C. § 112, second paragraph.

Substantive Rejection

Claims 1-3 have been rejected under 35 U.S.C. § 103, as obvious over U.S. Patent No. 6,311,904 (Lecturmy, et al.) in view of U.S. Patent Publication No. 2003/0183705 (Christiani, et al.), U.S. Patent No. 5,257,740 (Prew, et al.), U.S. Patent No. 6,568,612 (Aoki, et al.), and U.S. Patent No. 6,588,597 (Arakane, et al.).

Response to Substantive Rejection

In response, while not conceding the propriety of the rejection, independent Claim 1 has been amended. Applicants submit that as amended, this claim is allowable for the following reasons.

Amended independent Claim 1 relates to a method of recycling a plastic material of a process cartridge including metal materials, toner particles, and plastic materials of at least two different colors. The method comprises a first and a secondary crushing step, a magnetic selection step, an air selection step, and a color selection step. In the first crushing step the process cartridge is crushed while particles on the process cartridge are collected by suction. The particles include toner particles. In the magnetic selection step metal materials are separated from the crushed plastic materials of the process cartridge. In the secondary crushing step the size of the crushed plastic materials is adjusted. In the air selection step the remaining toner particles are separated from the size-adjusted, crushed plastic materials. In the color selection step a plastic material having a specific color density is separated from other plastic materials of the size-adjusted, crushed plastic materials separated from the remaining toner particles.

By this arrangement, a process cartridge that includes metal materials, toner particles, and two different colored plastic materials can be recycled to output plastic of a specific color density without causing a dust explosion. A dust explosion can occur when the crushing of the metal materials of the process cartridge generates a spark that ignites toner particles. Such a dust explosion is prevented by separating remaining toner particles from twice-crushed, size-adjusted process-cartridge plastic materials before separating plastic material of a specific color density from the other plastic materials.

To establish a prima facie case of obviousness, MPEP § 2142 places the burden on the Patent Office to satisfy the all-limitations test and the motivation-to-combine test. The all-limitations test requires the Office to cite art disclosing or suggesting *all* the claimed features.

The motivation-to combine test, according to MPEP § 2142, states that “there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings”. Neither test has yet been satisfied for amended Claim 1.

Amended Claim 1 recites, in part, the step of separating remaining toner particles from size-adjusted, twice-crushed, process-cartridge plastic materials. In addition, this step is performed before the separating of a plastic material of a specific color density from other plastic materials of the size-adjusted, twice-crushed, process-cartridge plastic materials. In contrast, the citations to Lecturmy, et al., Christiani, et al., Prew, et al., Aoki, et al., and Arakane, et al. are not understood to disclose or suggest at least these two features. Thus, the all-limitations test of MPEP § 2142 is not understood to have been satisfied for amended Claim 1, and for this reason alone, the Office is not understood to have established a prima facie case of obviousness against Claim 1. Therefore, Applicants respectfully request that the rejection of Claim 1 be withdrawn.

The motivation-to-combine test is also not understood to have been satisfied for several reasons.

First, the citations to Christiani, et al., Prew, et al., Aoki, et al., and Arakane, et al., are not understood to be analogous art, as required by MPEP § 2141.01(a). This section of the MPEP requires that these references must “either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned”. Here, as noted above, Claim 1 is directed to a method of recycling plastic material of a process cartridge that includes metal materials, toner particles, and plastic materials of at least two

different colors. Such a process cartridge is susceptible to a dust explosion during recycling before the plastic material of a specific color density is selected. Thus, for these citations to be analogous art, they should relate to a method of recycling plastic material of a process cartridge that includes metal materials, toner particles, and plastic materials of at least two different colors or be pertinent to solving the dust-explosion problem in such a process cartridge. But they do not.

Rather, the Christiani, et al. publication is understood to relate to “a method for the dry separation of unsorted garbage that contains packaging waste consisting of plastic material of various polymer groupings” (paragraph [0001]) such as “residual waste such as glass and ceramic shards, diapers, coffee grounds and other household waste components such as plastic articles, like, for example, plastic cups, bowls and tubes” (paragraph [0025]). The Prew, et al. patent is understood to relate to the “recycling of contaminated scrap film” (col. 1, lines 30-32) and “recycling thin film” (col. 1, lines 34 and 35). The Aoki, et al. patent is understood to relate to enhancing “the quality of recovered valuables which are obtained by pulverizing waste ” (col. 2, lines 51-55) including “OA equipment to be wrecked ... [including] a desk-top personal computer, a notebook-type personal computer, a display unit, a printer, a copier, a facsimile machine, and the like” (col. 5, lines 40-47). And the Arakane, et al. patent is understood to relate to a “system for treating a composite plastic which fractionates and recovers a useful material from a plastic composite product occupying much of general waste products and a plastic bottle in container and package waste products” (col. 1, lines 5-11), such as a “a plastic bottle used for drinks, foods, cleaning fluids or the like” (col. 3, lines 15 and 16).

Since these citations are not understood to relate to a method of recycling plastic material of a process cartridge that includes metal materials, toner particles, and plastic materials of at least two different colors, these citations are not understood to be in the field of Applicants' endeavor, as required by MPEP § 2141.01(a). In addition, because these citations are not understood to recognize or solve the problem of a dust explosion that can occur when recycling a process cartridge that includes toner particles and metal materials, these citations are not understood to be "reasonably pertinent to the particular problem with which the inventor was concerned", as also required by MPEP § 2141.01(a). Therefore, these citations are understood to be non-analogous art and the motivation-to-combine criterion is not understood to have been satisfied. As a result, for this additional reason, the Office has not yet established a prima facie case of obviousness against amended Claim 1.

Second, even if the citations to Christiani, et al., Prew, et al., Aoki, et al., and Arakane, et al. are analogous art, they are not understood to provide the factual basis to modify the Lecturmy, et al. method to produce the invention of amended Claim 1. They are not understood to provide the factual basis for such a modification because 1) they are not understood to relate to a method of recycling a process cartridge that includes metal materials, toner particles, and plastic materials of at least two different colors, 2) they are not understood to recognize a problem specific to the recycling of such a process cartridge — the occurrence of a dust explosion of toner particles that are ignited by a spark generated as metal materials of the process cartridge are crushed before the separating of plastic material of a specific color density from the other plastic materials, and 3) they are not understood to propose Claim 1's solution to this problem, i.e.,

separating remaining toner particles from twice-crushed, size-adjusted process-cartridge plastic materials before separating plastic material of a specific color density from the other plastic materials. Therefore, the factual basis for the Office Action's argument that it would be obvious to combine these documents to produce the invention of Claim 1 is not understood to exist. As a result, for this additional reason, the Office is not understood to have established a prima facie case of obviousness against amended Claim 1.

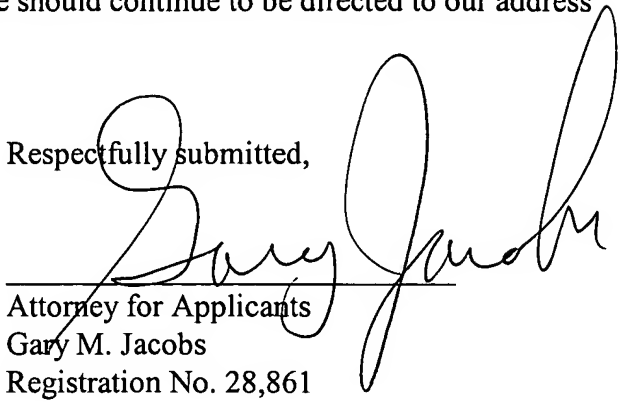
The dependent claims are allowable for the reasons given for the independent claims and because they recite features that are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

Conclusion

In view of the above amendments and remarks, the application is now in allowable form . Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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